

Chapter 5 Mitigation Strategy

Requirement §201.6(c)(3) and §201.7(c)(3): [The plan shall include] a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

This section describes the mitigation strategy process and mitigation action plan for this Placer County Local Hazard Mitigation Plan (LHMP) Update. It describes how the County and participating jurisdictions met the following requirements from the 10-step planning process:

- Planning Step 6: Set Goals
- Planning Step 7: Review Possible Activities
- Planning Step 8: Draft an Action Plan

5.1 Mitigation Strategy: Overview

The results of the planning process, the risk assessment, the goal setting, the identification of mitigation actions, and the hard work of the Hazard Mitigation Planning Committee (HMPC) led to the mitigation strategy and mitigation action plan for this LHMP Update. As part of the LHMP Update process, a comprehensive review and update of the mitigation strategy portion of the 2016 LHMP was conducted by the HMPC. Some of the initial goals and objectives from the 2016 Sutter County LHMP were refined and reaffirmed, some goals were deleted, and others were added. The end result was a new set of goals, reorganized to reflect the completion of or progress towards the 2016 actions, the updated risk assessment and the new priorities of this 2021 LHMP Update. To support the new LHMP goals, the mitigation actions from 2016 were reviewed and assessed for their value in reducing risk and vulnerability to the Placer County Planning Area from identified hazards and evaluated for their inclusion in this LHMP Update (See Chapter 2 What's New). Section 5.2 below identifies the new goals and objectives of this LHMP Update and Section 5.4 details the new mitigation action plan.

Taking all of the above into consideration, the HMPC developed the following umbrella mitigation strategy for this LHMP Update:

- Communicate the hazard information collected and analyzed through this planning process as well as mitigation success stories so that the community better understands what can happen where and what they themselves can do to be better prepared.
- Implement the action plan recommendations of this Plan.
- Use existing rules, regulations, policies, and procedures already in existence.
- Monitor multi-objective management opportunities so that funding opportunities may be shared and packaged, and broader constituent support may be garnered.

5.1.1. Continued Compliance with NFIP

Given the flood hazard in the Placer County Planning Area, an emphasis will be placed on continued compliance with the National Flood Insurance Program (NFIP) by all communities. Detailed below is a description of Placer County's flood management program to ensure continued compliance with the NFIP. A brief description of the County's CRS program is also provided below. Also to be considered are the numerous flood mitigation actions contained in this LHMP Update that support the ongoing efforts by the County and participating jurisdictions to minimize the risk and vulnerability of the community to the flood hazard and to enhance their overall floodplain management program. A summary of the flood management programs and continued compliance with the NFIP for the incorporated communities are detailed in their jurisdictional annexes.

Placer County's Flood Management Program

Placer County has participated in the Regular Phase of the NFIP since 1983. Since then, the County has administered floodplain management regulations that meet the minimum requirements of the NFIP. Under that arrangement, residents and businesses paid the same flood insurance premium rates as most other communities in the country.

The Community Rating System (CRS) was created in 1990. Placer County has been in the CRS program since 1991. The program is designed to recognize floodplain management activities that are above and beyond the NFIP's minimum requirements. CRS is designed to reward a community for implementing public information, mapping, regulatory, loss reduction and/or flood preparedness activities. On a scale of 10 to 1, Placer County is currently ranked Class 5 community, which gives a 25% premium discount to individuals in the Placer County Special Flood Hazard Area (SFHA), and a 10% discount to policyholders outside the SFHA.

Presently, the County manages its floodplains in compliance with NFIP/CRS requirements and implements a floodplain management program designed to protect the people and property of the County. Floodplain regulations are a critical element in local floodplain management and are a primary component in the County's participation in the NFIP. As well, the County's floodplain management activities apply to existing and new development areas, implementing flood protection measures for structures and maintaining drainage systems to help reduce the potential of flooding within the County.

The County will continue to manage their floodplains in continued compliance with the NFIP. An overview of the County's NFIP status and floodplain management program are discussed in Table 5-1. Additional information on the County's CRS program follows.

Table 5-1 Unincorporated Placer County NFIP Status

NFIP Topic	Comments
Insurance Summary	
How many NFIP policies are in the community? What is the total premium and coverage?	817 policies \$523,082 in premiums \$233,180,600 in coverage

NFIP Topic	Comments
How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?	236 paid claims \$4,788,314.79 in paid losses 25 substantial damage claims
How many structures are exposed to flood risk within the community?	849 improved parcels in 1% annual chance floodzone 50 improved parcels in 0.2% annual chance floodzone
Number of Repetitive and Severe Repetitive Loss Properties	44 Repetitive Loss Properties 0 Severe Repetitive Loss Properties
Describe any areas of flood risk with limited NFIP policy coverage	Based on this analysis of insurance coverage, Placer County has significant values at risk to the 1% annual chance and greater floods. Of the 849 improved parcels within the 1% annual chance flood zone, only 249 (or 29.3 percent) of those parcels maintain flood insurance.
Staff Resources	
Is the Community Floodplain Administrator or NFIP Coordinator certified?	Yes
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Placer County's Floodplain management group provides the full suite of administrative services necessary to achieve and maintain a CRS Class 5, including all of those identified in the example provided.
What are the barriers to running an effective NFIP program in the community, if any?	None
Compliance History	
Is the community in good standing with the NFIP?	Yes, Placer County had a Community Assistant Visit in 2019 and was rated highly with no compliance issues.
Are there any outstanding compliance issues (i.e., current violations)?	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	November 18, 2019
Is a CAV or CAC scheduled or needed?	No
Regulation	
When did the community enter the NFIP?	April 18, 1983
Are the FIRMs digital or paper?	Digital
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Meet and Exceed: See Appendix C for Details
Provide an explanation of the permitting process.	Clearly outlined in the floodplain ordinance. This process is strictly enforced.
Community Rating System (CRS)	
Does the community participate in CRS?	Yes

NFIP Topic	Comments
What is the community's CRS Class Ranking?	5
What categories and activities provide CRS points and how can the class be improved?	See below
Does the plan include CRS planning requirements?	Yes, in accordance with the CRS Activity 510 requirements of the 2017 CRS Coordinator's Manual

Source: FEMA, 12/2020/Placer County

The activities credited by the CRS program provide direct benefits to Placer County and its residents, including:

- Enhanced public safety;
- A reduction in damage to property and public infrastructure;
- Avoidance of economic disruption and losses;
- Reduction of human suffering; and
- Protection of the environment.

The activities that Placer County implements and receives CRS credits include:

- **Activity 310 – Elevation Certificates:** The Public Works Department, Floodplain Management Division maintains elevation certificates for new and substantially improved buildings. Copies of elevation certificates are made available upon request. Certificates are kept for post-FIRM buildings in computer format. Elevation Certificates, plans, regulations and other records are maintained in a secure location away from the permit office.
- **Activity 320 – Map Information Service:** Credit is provided for furnishing inquirers with flood zone information from the community's latest Flood Insurance Rate Map (FIRM), publicizing the service annually and maintaining records.
- **Activity 330 – Outreach Projects:** An outreach brochure and floodplain management updated is mailed annually to all properties with structures in the community's Special Flood Hazard Area (SFHA). The community also provides flood information through displays at public buildings and community events, as well as on their website.
- **Activity 340 – Hazard Disclosure:** Credit is provided for the local real estate agents disclosure of flood hazards to prospective buyers. An outreach brochure is mailed by the County annually to real estate agents and lenders in the community. Credit is also provided for state and community regulations requiring disclosure of flood hazards.
- **Activity 350 – Flood Protection Information:** Documents relating to floodplain management are available in the reference section of the Placer County Library. Credit is also provided for floodplain information displayed on the community's website.
- **Activity 360 – Flood Protection Assistance:** The community provides technical advice and assistance to interested property owners and annually publicizes the service.
- **Activity 370- Flood Insurance Promotion:** The community collects flood insurance information, determines flood insurance coverage, presents data to governing board and reassess data every five years.
- **Activity 410 – Floodplain Mapping:** Credit is provided for conducting and adopting flood studies for areas not included on the flood insurance rate maps and that exceed minimum mapping standards. Credit is also provided for a cooperating technical partnership agreement with FEMA.
- **Activity 420 – Open Space Preservation:** Park land and other such uses located in the floodplain are credited as open space preservation.

- **Activity 430 – Higher Regulatory Standards:** Credit is provided for enforcing regulations that require freeboard for new and substantial improvement construction, protection of floodplain storage capacity, natural and beneficial functions, enclosure limits, other higher regulatory standards, land development criteria and state mandated regulatory standards. Credit is also provided for a Building Code Effectiveness Grading Schedule (BCEGS) Classification of 2/2 for certification as a floodplain manager and the adoption of the International Building Codes.
- **Activity 440 – Flood Data Maintenance:** Credit is provided for maintaining and using digitized maps in the day-to-day management of the floodplain. Credit is also provided for establishing and maintaining a system of elevation reference marks and maintaining copies of all previous FIRMs and Flood Insurance Study Reports.
- **Activity 450 – Stormwater Management:** The community enforces regulations for stormwater management, freeboard in non-SFHA zones, soil and erosion control, and water quality. Credit is also provided for stormwater management master planning.
- **Section 501 – Repetitive Loss Category:** Based on the updates made to the NFIP Report of Repetitive Losses as of December 31, 2019, Placer County has nine repetitive loss properties and is a Category B community for CRS purposes. All requirements for a Category B community have been met. Credit is provided for the adoption and implementation of the Floodplain Management Plan. The community also sends letters to owners of repetitive loss structures.
- **Activity 510 – Floodplain Management Planning:** Credit is provided for the adoption and implementation of the County's current Floodplain Management Plan. In addition, as detailed in the Section 3.0, Planning Process, this LHMP Update is being developed to maximize CRS credits for Activity 510.
- **Activity 530 – Flood Protection:** Credit is provided for buildings that have been elevated to protect them from flood damage.
- **Activity 540 – Drainage System Maintenance:** Portions of the community's drainage system are inspected throughout the year and maintenance is performed as needed. Additionally, the Placer County Flood Control District has an annual stream clearing program in the high flood risk areas. Records are being maintained for both inspections and required maintenance. Credit is also provided for an ongoing Capital Improvements Program. Credit is also provided for enforcing regulations prohibiting dumping in the community's drainage system.
- **Activity 630 – Dam Safety:** All California communities currently receive CRS credit for the State's dam safety program.

5.1.2. Integration of Mitigation with Post Disaster Recovery and Mitigation Strategy Funding Opportunities

Hazard Mitigation actions are essential to weaving long-term resiliency into all community recovery efforts so that at-risk infrastructure, development, and other community assets are stronger and more resilient for the next severe storm event. Mitigation measures to reduce the risk and vulnerability of a community to future disaster losses can be implemented in advance of a disaster event and also as part of post-disaster recovery efforts.

Mitigation applied to recovery helps communities become more resilient and sustainable. It is often most efficient to fund all eligible infrastructure mitigation through FEMA's Public Assistance mitigation program if the asset was damaged in a storm event. Mitigation work can be added to project worksheets if they can be proven to be cost-beneficial.

Integration of mitigation into post disaster recovery efforts should be considered by all communities as part of their post disaster redevelopment and mitigation policies and procedures. As detailed in Section 4.4, the

Capability Assessment for the unincorporated County and in the Annex's for the other participating jurisdictions, post-disaster redevelopment and mitigation policies and procedures are evaluated and updated as part of the Emergency Operations Plan (EOP) updates and other emergency management plans for each community.

These EOP's, through its policies and procedures, seek to mitigate the effects of hazards, prepare for measures to be taken which will preserve life and minimize damage, enhance response during emergencies and provide necessary assistance, and establish a recovery system in order to return the community to their normal state of affairs. Mitigation is emphasized as a major component of recovery efforts.

Mitigation Strategy Funding Opportunities

An understanding of the various funding streams and opportunities will enable the communities to match identified mitigation projects with the grant programs that are most likely to fund them. Additionally, some of the funding opportunities can be utilized together. Mitigation grant funding opportunities available pre- and post- disaster include the following.

FEMA HMA Grants

Cal OES administers three main types of HMA grants: (1) Hazard Mitigation Grant Program, (2) Building Resilient Infrastructure and Communities (BRIC), replacing the former Pre-Disaster Mitigation (PDM) Program, and (3) Flood Mitigation Assistance Program. Eligible applicants for the HMA include state and local governments, certain private non-profits, and federally recognized Indian tribal governments. While private citizens cannot apply directly for the grant programs, they can benefit from the programs if they are included in an application sponsored by an eligible applicant

FEMA Public Assistance Section 406 Mitigation

The Robert T. Stafford Disaster Relief and Emergency Assistance Act provides FEMA the authority to fund the restoration of eligible facilities that have sustained damage due to a presidentially declared disaster. The regulations contain a provision for the consideration of funding additional measures that will enhance a facility's ability to resist similar damage in future events.

Community Development Block Grants

The California Department of Housing and Community Development administers the State's Community Development Block Grant (CDBG) program with funding provided by the U.S. Department of Housing and Urban Development. The program is available to all non-entitlement communities that meet applicable threshold requirements. All projects must meet one of the national objectives of the program – projects must benefit 51 percent low- and moderate-income people, aid in the prevention or clearance of slum and blight, or meet an urgent need. Grant funds can generally be used in federally declared disaster areas for CDBG eligible activities including the replacement or repair of infrastructure and housing damaged during, or as a result of, the declared disaster.

Small Business Loans

SBA offers low-interest, fixed-rate loans to disaster victims, enabling them to repair or replace property damaged or destroyed in declared disasters. It also offers such loans to affected small businesses to help them recover from economic injury caused by such disasters. Loans may also be increased up to 20 percent of the total amount of disaster damage to real estate and/or leasehold improvements to make improvements that lessen the risk of property damage by possible future disasters of the same kind.

Increased Cost of Compliance

Increased Cost of Compliance (ICC) coverage is one of several resources for flood insurance policyholders who need additional help rebuilding after a flood. It provides up to \$30,000 to help cover the cost of mitigation measures that will reduce flood risk. ICC coverage is a part of most standard flood insurance policies available under NFIP.

5.2 Goals and Objectives

Requirement §201.6(c)(3)(i) and §201.7(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Up to this point in the planning process, the HMPC has organized resources, assessed hazards and risks, and documented mitigation capabilities. The resulting goals, objectives, and mitigation actions were developed based on these tasks. The HMPC held a series of meetings and exercises designed to achieve a collaborative mitigation strategy as described further throughout this section. Appendix C documents the information covered in these mitigation strategy meetings, including information on the goals development and the identification and prioritization of mitigation alternatives by the HMPC.

During the initial goal-setting meeting, the HMPC reviewed the results of the hazard identification, vulnerability assessment, and capability assessment. This analysis of the risk assessment identified areas where improvements could be made and provided the framework for the HMPC to formulate planning goals and objectives and to develop the mitigation strategy for the Placer County Planning Area.

Goals were defined for the purpose of this mitigation plan as broad-based public policy statements that:

- Represent basic desires of the community;
- Encompass all aspects of community, public and private;
- Are nonspecific, in that they refer to the quality (not the quantity) of the outcome;
- Are future-oriented, in that they are achievable in the future; and
- A time-independent, in that they are not scheduled events.

Goals are stated without regard to implementation. Implementation cost, schedule, and means are not considered. Goals are defined before considering how to accomplish them so that they are not dependent on the means of achievement. Goal statements form the basis for objectives and actions that will be used as means to achieve the goals. Objectives define strategies to attain the goals and are more specific and measurable.

HMPC members were provided with the list of goals from the 2016 LHMP as well as a list of other sample goals to consider. The team was told that they could use, combine, or revise the statements provided or develop new ones, keeping the risk assessment in mind. Each member was asked to provide two goal statements. Goal statements were collected and grouped into similar themes and provided to the HMPC. Some of the statements were determined to be better suited as objectives or actual mitigation actions and were set aside for later use. Next, the HMPC developed objectives that summarized strategies to achieve each goal. Edits and refinements to these new goals and resulting objectives were provided by the HMPC until the team came to consensus on the final goals and objectives for this 2021 LHMP Update.

Based on the risk assessment review and goal setting process, the HMPC identified the following goals and objectives, which provide the direction for reducing future hazard-related losses within the Placer County Planning Area.

Goal 1: Minimize risk and vulnerability of Placer County to the impacts of natural hazards and protect lives and reduce damages and losses to property, economy, public health and safety, and the environment

- Minimize loss of life and injury and protect public health and safety of all Placer County residents and visitors, including at-risk populations
- Minimize economic and resource impacts and promote long-term viability and sustainability of County resources
- Minimize impacts to both existing and future development from all hazards
- Minimize impacts to natural and cultural resources
- Minimize impacts to watersheds/promote watershed health

Goal 2: Provide protection for critical facilities, infrastructure, utilities and services from hazard impacts.

- Harden critical facilities, infrastructure, and utilities; create redundancy and reliability to prevent or minimize loss and facilitate recovery
- Design and/or retrofit critical facilities, infrastructure, and utilities necessary for continuity of government to allow them to remain operational during and following a disaster
- Minimize impacts of extended power outages

Goal 3: Improve public awareness, education, communication, and preparedness for all hazards.

- Enhance public outreach, education, and preparedness program to include all hazards of concern
- Increase public knowledge of the risk and vulnerability to identified hazards and their recommended responses to disaster events to reduce losses
- Utilize multiple public outreach avenues and modern communication platforms, such as new technologies, social media, and others
- Provide information and alerts about potential, developing, and ongoing emergency situations through extensive alert and warning systems that convey information to all residents, in multiple languages and formats to ensure it is widely accessible
- Educate public on evacuation planning and sheltering options for all hazard types and to encompass all groups (e.g., residents, visitors, second homeowners, vulnerable populations, animals)
- Increase community awareness and participation in hazard mitigation activities

Goal 4: Increase communities' capabilities to mitigate losses and to be prepared for, respond to, and recover from a disaster event

- Continued enhancements to Emergency Services capabilities integrating new technologies to reduce losses and save lives
- Improve interagency (local, state, federal) emergency coordination, planning, training, exercising, and communication to ensure effective community preparedness, response and recovery
- Improve interagency coordination with respect to implementation of mitigation activities including multi-jurisdictional efforts
- Enhance the use of shared resources/Develop a strong mutual aid support system
- Maintain current service levels, at a minimum
- Develop funding mechanisms to enhance emergency services for additional staffing and enhanced services
- Increase first responders' awareness of vulnerable populations and other priority needs during a hazard event; (use of enhanced technology to pre-identify and communicate)
- Utilize lessons learned (debriefing) to improve response capabilities
- Promote efficient recovery from incidents to minimize impacts to lives, environment, and economy

Goal 5: Ensure a more resilient County that can adapt to the hazards created or exacerbated by Climate Change

- Integrate the results and adaptive policies of the Climate Vulnerability Assessment (prepared under the Placer County Sustainability Plan) into the implementation of the Local Hazard Mitigation Plan
- Reduce the County's greenhouse gas (GHG) emissions as specified in the Placer County Sustainability Plan in order to reduce the hazards exacerbated by climate change
- Consider climate change adaptation strategies in flood and inundation hazard planning
- Consider climate change adaptation strategies in planning for very high fire hazard severity zones
- Protect groundwater and reduce the impacts from drought and climate change

Goal 6: Reduce fire severity and mitigate undesirable fire outcomes in Placer County

- Reduce life safety issues, property loss, and damages associated with wildfires
- Prevent and reduce wildfire ignitions and wildfire-related losses
- Restore and maintain fire resilient landscapes on both public and private lands
- Create fire adaptive communities by facilitating interagency cooperation and communication and support between agencies and the public
- Mitigate undesirable fire outcomes for the environment, watersheds, and quality of life

Goal 7: Maintain FEMA Eligibility/Position the communities for grant funding

- Maintain requirement of updating LHMP every 5 years
- Continue to increase number of participating jurisdictions in future LHMP Updates to provide eligibility for FEMA pre- and post-mitigation funding and eligibility for other related funding sources
- Continued compliance with the NFIP/enhancement of floodplain management program through participation in the NFIP's Community Rating System (CRS) where feasible

5.3 Identification and Analysis of Mitigation Actions

Requirement §201.6(c)(3)(ii) and §201.6(c)(3)(ii): [The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

In order to identify and select mitigation actions to support the mitigation goals, each hazard identified in Section 4.1 was evaluated at the completion of the risk assessment as part of the second prioritization process to determine which hazards were priorities for mitigation strategy planning. Only those hazards that were determined to be a priority hazard for each participating jurisdiction were considered further in the development of hazard-specific mitigation actions. Those hazards not considered a priority for mitigation strategy development were eliminated from further consideration because the risk of a hazard event in the County is unlikely, the vulnerability of the county is low, or capabilities are already in place to mitigate negative impacts. Further, the resulting mitigation strategy presented in this Chapter focuses on those mitigation actions that each jurisdiction has the authority, resources, and capacity to consider for implementation over the next 5-years covered by this LHMP Update.

Table 5-2, Table 5-3, Table 5-4, and Table 5-5 provide a listing of priority hazards by jurisdiction to be addressed in the mitigation strategy portion of this Plan.

Table 5-2 Placer County Planning Area: Mitigation Action Priority Hazards by Jurisdiction – Unincorporated County and Incorporated Jurisdictions

Priority Hazards for Mitigation Action Development	Placer County	Auburn	Colfax	Lincoln	Loomis	Rocklin
Agricultural Hazards	X					
Avalanche	X					
Climate Change	X	X	X	X	X	
Dam Failure	X		X			
Drought & Water Shortage	X	X	X	X	X	X
Earthquake	X	X	X	X	X	
Floods: 1%/0.2% annual chance	X			X	X	
Floods: Localized Stormwater	X	X	X	X	X	X
Landslides, Mudslides, and Debris Flows			X			
Levee Failure						
Pandemic	X	X	X	X	X	X
Seiche	X					
Severe Weather: Extreme Heat	X	X	X	X		X
Severe Weather: Freeze and Snow	X	X		X		X
Severe Weather: Heavy Rains and Storms	X	X				X

Priority Hazards for Mitigation Action Development	Placer County	Auburn	Colfax	Lincoln	Loomis	Rocklin
Severe Weather: High Winds and Tornadoes	X		X		X	
Tree Mortality	X	X	X			
Wildfire	X	X	X	X	X	X

Table 5-3 Placer County Planning Area: Mitigation Action Priority Hazards by Jurisdiction – Special Districts

Priority Hazards for Mitigation Action Development	Alta Fire	Alpine Springs	Foresthill Fire	Foresthill PUD	Nevada Irrigation	Newcastle Fire	Northstar CSD
Agricultural Hazards					X		
Avalanche		X			X		
Climate Change	X	X	X		X	X	
Dam Failure				X	X		X
Drought & Water Shortage	X	X	X	X	X	X	
Earthquake	X	X			X		X
Floods: 1%/0.2% annual chance		X			X	X	
Floods: Localized Stormwater	X	X	X	X	X	X	
Landslides, Mudslides, and Debris Flows	X	X		X	X		
Levee Failure					X		
Pandemic		X	X		X		X
Seiche							
Severe Weather: Extreme Heat	X		X	X	X	X	
Severe Weather: Freeze and Snow	X	X	X	X	X	X	X
Severe Weather: Heavy Rains and Storms	X	X		X	X	X	
Severe Weather: High Winds and Tornadoes	X	X	X		X		
Tree Mortality	X	X	X	X	X	X	X
Wildfire	X	X	X	X	X	X	X

Table 5-4 Placer County Planning Area: Mitigation Action Priority Hazards by Jurisdiction – Special Districts

Priority Hazards for Mitigation Action Development	North Tahoe Fire	North Tahoe PUD	Olympic Valley Fire	Placer County Flood Control	Placer County Resource Conservation	Placer County Water Agency	Placer Hills FPD
Agricultural Hazards						X	
Avalanche	X		X				
Climate Change	X				X	X	
Dam Failure			X	X		X	
Drought & Water Shortage	X	X		X	X	X	
Earthquake	X	X	X				
Floods: 1%/0.2% annual chance		X	X	X		X	
Floods: Localized Stormwater	X	X	X	X	X	X	
Landslides, Mudslides, and Debris Flows			X			X	
Levee Failure				X			
Pandemic	X	X				X	
Seiche	X	X					
Severe Weather: Extreme Heat		X					
Severe Weather: Freeze and Snow	X	X	X				
Severe Weather: Heavy Rains and Storms	X		X	X		X	
Severe Weather: High Winds and Tornadoes	X						
Tree Mortality	X	X	X		X	X	
Wildfire	X	X	X	X	X	XP	

Table 5-5 Placer County Planning Area: Mitigation Action Priority Hazards by Jurisdiction – Special Districts

Priority Hazards for Mitigation Action Development	San Juan Water	Sierra Joint CC	South Placer Fire	Tahoe City PUD	Truckee FPD	Placer County Air Pollution Control
Agricultural Hazards						
Avalanche				X		
Climate Change	X		X		X	X
Dam Failure	X			X	X	

Priority Hazards for Mitigation Action Development	San Juan Water	Sierra Joint CC	South Placer Fire	Tahoe City PUD	Truckee FPD	Placer County Air Pollution Control
Drought & Water Shortage	X	X	X	X		
Earthquake	X		X	X	X	
Floods: 1%/0.2% annual chance	X		X	X	X	
Floods: Localized Stormwater		X	X	X		
Landslides, Mudslides, and Debris Flows				X		
Levee Failure			X			
Pandemic	X	X			X	
Seiche				X	X	
Severe Weather: Extreme Heat	X		X			X
Severe Weather: Freeze and Snow	X		X	X	X	
Severe Weather: Heavy Rains and Storms	X		X	X		
Severe Weather: High Winds and Tornadoes	X		X	X		
Tree Mortality				X		
Wildfire	X	X	X	X	X	X

It is important to note, however, that all the Hazards Addressed in this Plan are included in the countywide multi-hazard public awareness mitigation action as well as in other multi-hazard, emergency management actions, and other hazard-specific actions, providing benefits to all participating jurisdictions to this Plan.

Once it was determined which hazards warranted the development of specific mitigation actions, the HMPC analyzed viable mitigation options that supported the identified goals and objectives. The HMPC was provided with the following list of categories of mitigation actions, which originate from the Community Rating System:

- Prevention
- Property protection
- Structural projects
- Natural resource protection
- Emergency services
- Public information

The HMPC was provided with examples of potential mitigation actions for each of the above categories. The HMPC was also instructed to consider both future and existing buildings in considering possible mitigation actions. A facilitated discussion then took place to examine and analyze the options. Appendix C provides a detailed review and discussion of the six mitigation categories to assist in the review and

identification of possible mitigation activities or projects. Also utilized in the review of possible mitigation measures is FEMA's publication on Mitigation Ideas, by hazard type. Prevention type mitigation alternatives were discussed for each of the priority hazards. This was followed by a brainstorming session that generated a list of preferred mitigation actions by hazard.

5.3.1. Prioritization Process

Once the mitigation actions were identified, the HMPC was provided with several decision-making tools, including FEMA's recommended prioritization criteria, STAPLEE sustainable disaster recovery criteria; Smart Growth principles; and others, to assist in deciding why one recommended action might be more important, more effective, or more likely to be implemented than another. STAPLEE stands for the following:

- Social: Does the measure treat people fairly? (e.g., different groups, different generations)
- Technical: Is the action technically feasible? Does it solve the problem?
- Administrative: Are there adequate staffing, funding, and other capabilities to implement the project?
- Political: Who are the stakeholders? Will there be adequate political and public support for the project?
- Legal: Does the jurisdiction have the legal authority to implement the action? Is it legal?
- Economic: Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?
- Environmental: Does the action comply with environmental regulations? Will there be negative environmental consequences from the action?

In accordance with the DMA requirements, an emphasis was placed on the importance of a benefit-cost analysis in determining action priority. Other criteria used to assist in evaluating the benefit-cost of a mitigation action includes:

- Contribution of the action to save life or property
- Availability of funding and perceived cost-effectiveness
- Available resources for implementation
- Ability of the action to address the problem

The initial list of mitigation actions from the 2016 LHMP and new actions identified during this planning process were reviewed and prioritized via an LHMP mitigation action voting website for inclusion in this 2021 LHMP Update. The Placer County mitigation action voting website established at <https://fostermorrison.aweeba.com/> included the list of actions brainstormed during the mitigation strategy meetings and provided a mechanism for everyone to vote on their priority actions for further development as detailed further below. This comprehensive review of mitigation measures was performed using the criteria (alternatives and selection criteria) in Appendix C.

With these criteria in mind, HMPC members were each provided with nine weighted votes, indicating High (worth 5 points), Medium (worth 3 points), and Low (worth 1 point) priorities. The team was asked to use the votes to prioritize actions with the above criteria in mind. The point score for each action was totaled. Appendix C contains the total score given to each identified mitigation action.

The process of identification and analysis of mitigation alternatives allowed the HMPC to come to consensus and to prioritize recommended mitigation actions. During the voting process, emphasis was placed on the importance of a benefit-cost review in determining project priority; however, this was not a

quantitative analysis. The team agreed that prioritizing the actions collectively enabled the actions to be ranked in order of relative importance and helped steer the development of additional actions that meet the more important objectives while eliminating some of the actions which did not garner much support.

Benefit-cost was also considered in greater detail in the development of the Mitigation Action Plan detailed below in Section 5.4. The cost-effectiveness of any mitigation alternative will be considered in greater detail through performing benefit-cost project analyses when seeking FEMA mitigation grant funding for eligible actions associated with this LHMP Update.

Recognizing the limitations in prioritizing actions from multiple jurisdictions and departments and the regulatory requirement to prioritize by benefit-cost to ensure cost-effectiveness, the HMPC decided to pursue actions that contributed to saving lives and property as first and foremost, with additional consideration given to the benefit-cost aspect of a project. This process drove the development of a determination of a high, medium, or low priority for each mitigation action, and a comprehensive prioritized mitigation action plan for the Placer County Planning Area.

5.4 Mitigation Action Plan

Requirement §201.6(c)(3)(iii) and §201.7(c)(3)(iii): [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

This mitigation action plan was developed to present the recommendations developed by the HMPC for how the Placer County Planning Area can reduce the risk and vulnerability of people, property, infrastructure, and natural and cultural resources to future disaster losses. Emphasis was placed on both future and existing development. This mitigation action plan summarizes who is responsible for implementing each of the prioritized actions as well as when and how the actions will be implemented. Each action summary also includes a discussion of the benefit-cost review conducted to meet the regulatory requirements of the Disaster Mitigation Act.

Table 5-6 identifies all mitigation actions for all participating jurisdictions to this LHMP Update. For each mitigation action item included in Table 5-6, a detailed mitigation implementation strategy has been developed. Only those actions where the County is the lead jurisdiction are detailed further in this section. Actions specific to other participating jurisdictions, or where other jurisdictions are taking the lead, are detailed in each respective jurisdictional annex to this Plan.

The mitigation action plan detailed below contains both new action items developed for this LHMP Update as well as old actions that were yet to be completed from the 2016 Plan. Table 5-6 indicates whether the action is new or from the 2016 LHMP and Chapter 2 contains the details for each 2016 mitigation action item indicating whether a given action item has been completed, deleted, or deferred.

As described throughout this LHMP Update, Placer County has many risks and vulnerabilities to identified hazards. Although many possible mitigation actions, as detailed in Appendix C, were brainstormed and

prioritized during the mitigation strategy meetings, the resulting mitigation strategy presented in this Chapter 5 of this LHMP focuses only on those mitigation actions that are both reasonable and realistic for the communities to consider for implementation over the next 5-years covered by this 2021 Update. Thus, only a portion of the actions identified in Appendix C have been carried forward into the mitigation strategy presented in Table 5-6. Although many good ideas were developed during the mitigation action brainstorming process, the reality of determining which priority actions to develop and include in this LHMP Update came down to the actual priorities of communities, individuals and departments based in part on department direction, staffing, and available funding. The overall value of the mitigation action table in Appendix C is that it represents a wide-range of mitigation actions that can be consulted and developed for this LHMP Update during annual plan reviews and the formal 5-year update process.

It is also important to note that Placer County and the participating jurisdictions have numerous existing, detailed action descriptions, which include benefit-cost estimates, in other planning documents, such as stormwater and drainage plans, flood and water management plans, and capital improvement budgets and reports. These actions are considered to be part of this Plan, and the details, to avoid duplication, should be referenced in their original source document. The HMPC also realizes that new needs and priorities may arise as a result of a disaster or other circumstances and reserves the right to support new actions, as necessary, as long as they conform to the overall goals of this Plan.

Further, it should be clarified that the actions included in this mitigation strategy are subject to further review and refinement; alternatives analyses; and reprioritization due to funding availability and/or other criteria. The participating communities are not obligated by this document to implement any or all of these projects. Rather this mitigation strategy represents the desires of the community to mitigate the risks and vulnerabilities from identified hazards. The actual selection, prioritization, and implementation of these actions will also be further evaluated in accordance with the mitigation categories and criteria contained in Appendix C.

It should be noted that many of the projects submitted by each jurisdiction in Table 5-6 benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the public outreach action, as well as many of the emergency services actions, apply to all hazards regardless of hazard priority. Collectively, this multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5-years covered by this Plan.

NEED MORE ACTIONS

FM TO FILL OUT LAST COLUMN

Table 5-6 Placer County Planning Area Mitigation Actions

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Placer County						
Multi-Hazard Actions						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	Unincorporated Placer County	2016 Action	X	X		Prevention
Action 2. Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	Unincorporated Placer County	New Action	X	X		Public Information
Action 3. Critical Facility Infrastructure Improvements	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection Emergency Services
Action 4. Protect Sewer Infrastructure and Utilities	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection Emergency Services
Action 5. Trail System Way Finding and Directional Signage	Unincorporated Placer County	2016 Action	X	X		Public Information Emergency Services
Agricultural Hazard Actions						
Action 6.						
Avalanche Actions						
Action 7.						
Climate Change Actions						

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 8. Green Waste	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 9. Reduce Organic Waste Disposal	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Dam Failure, Flood: 1%, 0.5%, 0.2% annual chance, Flood: Localized Flood, and Severe Weather: Heavy Rains and Storms Actions						
Action 10. Elevate Repetitive Loss Structures in 100-year Floodplain	Unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects
Action 11. Elevate Remaining 95 Homes in the Dry Creek Watershed	Unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects
Action 12. Community Rating System (CRS) Maintain and Enhance	Unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection Emergency Services Public Information
Action 13. Bridge and Culvert replacement and drainage improvements	Unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection
Drought & Water Shortage, Severe Weather: Extreme Heat, Tree Mortality, and Wildfire Actions						
Action 14. Improve and Protect Water Systems	Unincorporated Placer County	New Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 15. Groundwater Sustainability Planning	Unincorporated Placer County	New Action	X	X		Prevention Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 16. Fuel Breaks - Wildland Urban Interface (WUI)	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 17. Public Education & Awareness	Unincorporated Placer County	New Action	X	X		Public Information
Action 18. Fuel Break - Large Strategic	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 19. Natural Systems Protection / Education and Awareness Programs - Placer County Wildland Urban Interface (WUI) Strategic Planning	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection Public Information
Action 20. Fuel Break - North Fork of American River	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 21. Fuel Break - North Fork of American River	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 22. Defensible Space Programs	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection Public Information
Action 23. Fuel Break - North Fork of American River	Unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection Public Information
Earthquake Actions						

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 24.						
Pandemic Actions						
Action 25.						
Seiche Actions						
Action 26.						
Severe Weather: Freeze and Snow and High Wind and Tornado Actions						
Action 27.						
City of Auburn						
Action 1. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Auburn	2016 Action	X	X		Public Information
Action 2. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Auburn	New Action	X	X		Prevention
NEED ACTIONS						
City of Colfax						
Action 1. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Colfax	2016 Action	X	X		Public Information
Action 2. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Colfax	New Action	X	X		Prevention
Action 3. Continue Annual Weed Abatement Ordinance	City of Colfax	2016 Action	X	X		Prevention Property Protection Natural Resource Protection Public Information
Action 4. Colfax Schools Evacuation Site Shaded Fuel Break	City of Colfax	2016 Action	X	X		Prevention Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 5. Evaluate the Need and Feasibility of Improving Fire Prevention for the Historic Business District	City of Colfax	2016 Action	X	X		Prevention Property Protection
City of Lincoln						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Lincoln	2016 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Lincoln	New Action	X	X	X	Public Information
Action 3. Lincoln Boulevard: Auburn Ravine Bridge – Reconstruct Bridge	City of Lincoln	2016 Action	X	X		Structural Projects
Action 4. McBean Park Drive: Auburn Ravine Bridge – Additional 110' Span	City of Lincoln	2016 Action	X	X	X	Structural Projects
Action 5. Lakeview Farms Regional Volumetric Mitigation Facility	City of Lincoln	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 6. Gladding Parkway, Lincoln Boulevard, McCourtney Road – Stream Restoration And Culvert Improvement	City of Lincoln	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 7. "O" Street Drainage Improvements	City of Lincoln	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 8. 7th Street Drainage Improvements	City of Lincoln	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 9. Auburn Ravine at State Route 193 Bridge	City of Lincoln	2016 Action	X	X	X	Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 10. Auburn Ravine at State Route 65 Bridge	City of Lincoln	2016 Action	X	X	X	Property Protection Natural Resource Protection
Action 11. Ingram Slough – Orchard Creek Return Channel	City of Lincoln	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 12. Markham Ravine – Updated FEMA Analysis And Mapping	City of Lincoln	2016 Action	X	X	X	Prevention
Action 13. Markham Ravine Drainage Improvements – Union Pacific Railroad & State Route 65 Crossings	City of Lincoln	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 14. Auburn Ravine Stream Restoration Projects (Analysis and Repairs)	City of Lincoln	2016 Action	X	X	X	Prevention Property Protection Natural Resource Protection
Action 15. Markham Ravine Streambed Restoration Projects (Analysis Only)	City of Lincoln	2016 Action	X	X	X	Prevention
Action 16. Coon Creek Streambed Restoration Projects (Analysis Only)	City of Lincoln	2016 Action	X	X	X	Prevention
Action 17. Fire Prevention and Fuels Management Plan	City of Lincoln	2016 Action	X	X		Prevention Property Protection Natural Resource Protection Public Information
Town of Loomis						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	Town of Loomis	2016 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	Town of Loomis	New Action	X	X		Public Information

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
NEED ACTIONS						
City of Rocklin						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Rocklin	2016 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Rocklin	New Action	X	X		Public Information
Action 3. Open Space Fire Prevention and Vegetation Management Prescribed Grazing	City of Rocklin	2016 Action	X	X		Prevention Property Protection Natural Resource Protection Public Information
Action 4. Creek Channel and Draining Way Clearing and Maintenance	City of Rocklin	2016 Action	X	X	X	Prevention Property Protection Natural Resource Protection
Action 5. GIS Based Mapping of Pertinent Information that can be used by All Agencies in the Development of Plans and During Emergency Incidents	City of Rocklin	2016 Action	X	X		Prevention Emergency Services
Alta Fire Protection District						
Action 1. Reflective Addressing	AFPD and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Emergency Services
Action 2. Alta FireWise Community Established and Continuing	AFPD and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection
Action 3. Apparatus Water Fill & Drafting Location Improvements	AFPD and unincorporated Placer County	2016 Action	X	X		Property Protection Natural Resource Protection Emergency Services

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 4. Emergency Communications and Information System Improvements (HAM Radio and GMRS communications)	AFPD and unincorporated Placer County	2016 Action	X	X		Emergency Services
Action 5. Evacuation / Reunification Center Improvements	AFPD and unincorporated Placer County	2016 Action	X	X		Emergency Services
Action 6. Home Hardening Education and Projects	AFPD and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Structural Projects Public Information
Action 7. Natural Systems Protection /Community Fuel Breaks	AFPD and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection
Action 8. Natural Systems Protection / Education and Awareness Programs	AFPD and unincorporated Placer County	2016 Action	X	X		Prevention Public Information
Alpine Springs County Water District						
Action 1. Fire Fuels Mitigation	ASCWD and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
NEED ACTIONS						
Foresthill Fire Protection District						
Action 1. Chipper Program for Foresthill FPD	FFPD and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Nevada Irrigation District						
Action 1. 2015 Agricultural Water Management Plan – Updated 2021	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 2. Avalanche Mitigation	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 3. Canal Culvert Replacement Program	NID and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 4. Centennial Water Supply Project	NID and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Natural Resource Protection
Action 5. Combie Phase 1 Replacement	NID and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 6. Continuity of Operations Plan	NID and unincorporated Placer County	New Action	X	X		Prevention Emergency Services
Action 7. Pandemic Planning	NID and unincorporated Placer County	New Action	X	X		Prevention
Action 8. Dam Failure Mitigation	NID and unincorporated Placer County	New Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 9. Water Conservation and Drought Preparedness	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 10. Drought Contingency Plan	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 11. Flood Mitigation	NID and unincorporated Placer County	New Action	X	X		Prevention Emergency Services
Action 12. Healthy Forest Management and Wildfire Mitigation Plan	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection Public Information
Action 13. Forest Resilience Program	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 14. Injury and Illness Prevention Program	NID and unincorporated Placer County	New Action	X	X		Prevention
Action 15. Public Safety Plan (FERC)	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection
Action 16. North Auburn Treatment Plant VFD's and Permanent Backup Generator	NID and unincorporated Placer County	New Action	X	X		Property Protection Structural Projects Natural Resource Protection Emergency Services
Action 17. Orr Creek Diversion	NID and unincorporated Placer County	2016 Action	X	X		Structural Projects Property Protection
Action 18. Owner's Dam Safety Program, Revision 3.0	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection Emergency Services

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 19. Raw Water Master Plan	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 20. Raw Water Replacement Program	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection
Action 21. Reservoir Cleaning	NID and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Natural Resource Protection
Action 22. Resilient Headwaters Forests	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 23. Tree Mortality Mitigation	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 24. 2015 Urban Water Management Plan – Updated 2021	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 25. Vegetation Management Plan (Hydroelectric Facilities)	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 26. Water Planning Projections	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 27. Water Service Auburn Valley CSD	NID and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects
Action 28. Forest Resilience and Wildfire Risk Reduction	NID and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Newcastle Fire Protection District						
Action 1.Private roadway and driveway vegetation clearances.	NFPD and unincorporated Placer County	New action	X	X		Prevention Property Protection Natural Resource Protection
Action 2.Address signage for residential and commercial structures.	NFPD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
Action 3.Provide Advanced Life Support (ALS) services utilizing paramedics on the engine company.	NFPD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
Action 4.Defensible space inspection and implementation throughout the District.	NFPD and unincorporated Placer County	New action	X	X		Prevention Property Protection Natural Resource Protection
Action 5.Relocate and construct a new fire station for the Newcastle Fire Protection District.	NFPD and unincorporated Placer County	New action	X	X		Prevention Property Protection Structural Projects
Action 6.Participate and collaborate with the Greater Auburn Area Fire Safe Council (GAAFSC) and contribute to the Community Wildfire Protection Plan (CWPP)	NFPD and unincorporated Placer County	New action	X	X		Prevention
Action 7. Heavy Rains, Localized Flooding, Flood, Freeze, and Snow Mitigation	NFPD and unincorporated Placer County	New action	X	X		Prevention Emergency Services

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Northstar Community Services District and Fire Department						
Action 1.Tree Mortality	NCSD & FD and unincorporated Placer County	New action	X	X		Prevention Property Protection Natural Resource Protection
Action 2.Wildfire Mitigation	NCSD & FD and unincorporated Placer County	New action	X	X		Prevention Property Protection Natural Resource Protection
Action 3.Critical Power Interruption Emergency Response Plan	NCSD & FD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
Action 4.Emergency Action Plan – Reservoir A Dam	NCSD & FD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
North Tahoe Fire Protection District						
Action 1. Avalanche: Risk Reduction, Response Plan, and Pre-Incident Training	NTFPD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
Action 2. Communications: Upgrades, Development, Maintenance, and Enhancement of Interoperability Radio Systems	NTFPD and unincorporated Placer County	2016 Action	X	X		Prevention Emergency Services
Action 3. Community Wildfire Prevention Plan Implementation: Forest Management, Fuels Reduction, Defensible Space, Home Hardening, Curbside Chipping, Greenwaste Disposal, Tree Marking, Fire Adapted and Firewise Communities, Outreach & Education	NTFPD and unincorporated Placer County	New action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection Public Information
Action 4. GIS Technology, Equipment, Database and Mapping Improvements	NTFPD and unincorporated Placer County	2016 Action	X	X		Prevention Emergency Services

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 5. Pandemic Preparedness and Response Plan	NTPFD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
Action 6. Tahoe Emergency Notifications System (TENS)	NTPFD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
Action 7. Water for Fire Suppression Collaborative	NTPFD and unincorporated Placer County	New action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection Public Information Emergency Services
North Tahoe Public Utility District						
Action 1.Backup Generator Installation at Critical Facilities	NTPUD and unincorporated Placer County	New action	X	X		Prevention Property Protection Emergency Services
Action 2.Fuels Reduction around Critical Infrastructure and Access Roads, and within the North Tahoe Regional Park	NTPUD and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Natural Resource Protection
Action 3.Increased Capacity and Reliability for Dollar Cove Water System	NTPUD and unincorporated Placer County	New action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection Public Information
Action 4.Cybersecurity Assessment and Improvements	NTPUD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
Action 5.Seismic Analysis and Retrofit of Critical Infrastructure	NTPUD and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Structural Projects

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 6.Sewer Main Replacements in Shorezone of Lake Tahoe	NTPUD and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 7.Water Booster Pump Station Rehabilitation/Replacement	NTPUD and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 8.Water System Interties	NTPUD and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection Emergency Services
Olympic Valley Fire Department/Olympic Valley Public Service District						
Action 1. Community-Wide Emergency Notification System	OVFD/OVPSD and unincorporated Placer County	2016 Action	X	X		Prevention Emergency Services
Action 2. Emergency Water Supply Interconnection to Martis Valley	OVFD/OVPSD and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection Emergency Services
Action 3. OVPSD/Mutual Water Company Intertie	OVFD/OVPSD and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection Emergency Services
Action 4. Squaw Creek Siphon	OVFD/OVPSD and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 5. Water Tank Earthquake Retrofit Projects	OVFD/OVPSD and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Emergency Services

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 6. Easement Abatement/Maintenance of Emergency Access	OVFD/OVPSD and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Natural Resource Protection
Action 7. Towable Generator for Powering Booster Stations	OVFD/OVPSD and unincorporated Placer County	New Action	X	X		Prevention Property Protection Emergency Services
Action 8. Emergency Water Supply Interconnection to Martis Valley	OVFD/OVPSD and unincorporated Placer County	New Action	X	X		Property Protection Structural Projects Natural Resource Protection Emergency Services
Placer County Flood Control District						
Action 1.FEMA CTP DFIRM Mapping Study	PCFCD and unincorporated Placer County	2016 Action	X	X	X	Prevention Property Protection
Action 2.Pursue Regional Detention and Retention Projects within the Dry Creek and Cross Canal Watersheds	PCFCD and unincorporated Placer County	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 3.Update the Flood Control Plan for the Cross Canal Watershed	PCFCD and unincorporated Placer County	2016 Action	X	X	X	Prevention Property Protection
Action 4.Upgrade Flood Warning System to ALERT 2, Add Additional Gage Locations and Flood Forecasting Capabilities	PCFCD and unincorporated Placer County	2016 Action	X	X	X	Prevention Property Protection Emergency Services
Placer County Resource Conservation District						
Action 1. Fuel Breaks - Wildland Urban Interface (WUI)	PCRCDD and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 2. Fuel Break - Large Strategic	PCRC and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 3. Defensible Space Programs (Placer County Chipper Program)	PCRC and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection Public Information
Action 4. Landowner Technical Assistance (Healthy Soils/ Carbon Farm Management Program)	PCRC and unincorporated Placer County	New Action	X	X		Prevention Natural Resource Protection Public Information
Placer County Water Agency						
Action 1. Develop Operable Dam Spillway Gates at Hell Hole Reservoir	PCWA and unincorporated Placer County	New Action	X	X	X	Structural Projects Emergency Services
Action 2. Alternate Intake for Alta Water Treatment Plant	PCWA and unincorporated Placer County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 3. Canal Access for Fire Fighting and water source	PCWA and unincorporated Placer County	New Action	X	X		Emergency Services
Action 4. Back-up and Stand-By Power Generation for critical community drinking and fire suppression water supply.	PCWA and unincorporated Placer County	New Action	X	X	X	Property Protection Emergency Services
Action 5. Lake Arthur Pumping Station	PCWA and unincorporated Placer County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 6. Monte Vista Spill Improvements and Cedar Creek Canal Encasement in Pipe	PCWA and unincorporated Placer County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 7. Pulp Mill Canal Pipeline Encasement	PCWA and unincorporated Placer County	New Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 8. Permanent Pumps in Rock Creek Reservoir (PG&E Reservoir)	PCWA and unincorporated Placer County	New Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 9. Vegetation Management at PCWA Wooden Flumes	PCWA and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Natural Resource Protection
Action 10. Enhance Canals by Converting Earthen Canals to Gunite-Lined Canals in Critical Areas.	PCWA and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects
Action 11. Wildfire prevention or Wildfire firefighting enhancements.	PCWA and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 12. Replace Wooden Flume Structures	PCWA and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects
Action 13. Reservoir - dam capacity and water management improvement projects. (was De-Silt Reservoirs)	PCWA and unincorporated Placer County	2016 Action	X	X	X	Property Protection Structural Projects
Action 14. Rockfall anchoring, stabilization, rockfall netting and slide debris mitigation. (was Hillside Slope Stabilization)	PCWA and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 15. Zone 3 Automation	PCWA and unincorporated Placer County	New Action	X	X	X	Prevention Property Protection Structural Projects
Action 16. Pumps at Halsey Forebay	PCWA and unincorporated Placer County	New Action	X	X		Property Protection Structural Projects
Action 17. Backup Electrical Generation at American River and Ophir Road Pump Stations	PCWA and unincorporated Placer County	New Action	X	X		Prevention Property Protection Emergency Services
Action 18. Sierra Forest Restoration Partnerships	PCWA and unincorporated Placer County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Placer Hills Fire Protection District						
Action 1. Address signage for residential and commercial structures.	PHFPD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
Action 2. Defensible space inspection and implementation throughout the District.	PHFPD and unincorporated Placer County	New action	X	X		Prevention Property Protection Natural Resource Protection
Action 3. Private roadway and driveway vegetation clearances.	PHFPD and unincorporated Placer County	New action	X	X		Prevention Property Protection Natural Resource Protection
Action 4. Participate and collaborate with the Placer Sierra Fire Safe Council (PSFSC) and contribute to the Community Wildfire Protection Plan (CWPP)	PHFPD and unincorporated Placer County	New action	X	X		Prevention Property Protection Natural Resource Protection
Action 5. Heavy Rains, Localized Flooding, Flood, Freeze, and Snow Mitigation	PHFPD and unincorporated Placer County	New action	X	X		Prevention Emergency Services

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
San Juan Water District						
Action 1.Updating the 2015 Urban Water Management Plan	SJWD and unincorporated Placer County	New action	X	X		Prevention Property Protection Natural Resource Protection
Action 2.Dam Failure Mitigation	SJWD and unincorporated Placer County	New action	X	X		Property Protection Structural Projects
Action 3.Earthquake Mitigation	SJWD and unincorporated Placer County	New action	X	X		
Sierra Joint Community College District						
Action 1. Campus safety: fire, earthquake, active shooter, power outage, health emergencies, and pandemics.	SJCCD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
South Placer Fire Protection District						
Action 1. Vegetation Management in Open Space Areas	SPFPD and unincorporated Placer County	2016 Action	X	X		Prevention Property Protection Natural Resource Protection
Action 2. Shaded Fuel Break along west shore of Folsom Lake - Granite Bay	SPFPD and unincorporated Placer County	New action	X	X		Prevention Property Protection Natural Resource Protection
Action 3. Backup Generator Installation for Fire Stations	SPFPD and unincorporated Placer County	New action	X	X		Prevention Emergency Services
Tahoe City Public Utility District						
Action 1. West Shore Storage Augmentation Project	TCPUD and unincorporated Placer County	New action	X	X		Property Protection Structural Projects Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 2. Tahoe Cedars Water System Interconnection and Distribution Project	TCPUD and unincorporated Placer County	New action	X	X		Property Protection Structural Projects Natural Resource Protection Emergency Services
Action 3. Madden Creek Water System Interconnection and Distribution Project	TCPUD and unincorporated Placer County	New action	X	X		Property Protection Structural Projects Natural Resource Protection Emergency Services
Action 4. West Lake Tahoe Regional Water Treatment Plant	TCPUD and unincorporated Placer County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection
Truckee Fire Protection District						
NEED ACTIONS						
Placer County Air Pollution Control District						
Action 1. Wildfire Smoke Impact Response – Public Education & Outreach	PCAPCD and unincorporated Placer County	New action	X	X		Emergency Services Public Information
Action 2. Local Air Quality Sensors to provide instantaneous public information on local PM concentrations due to wildfire smoke.	PCAPCD and unincorporated Placer County	New action	X	X		Prevention Emergency Services Public Information
Action 3. Wildfire Smoke Impact Response – Clean Air Centers for Vulnerable Populations	PCAPCD and unincorporated Placer County	New action	X	X		Prevention Emergency Services Public Information

Multi-Hazard Actions

Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan

Hazards Addressed: Multi-hazard (Aquatic Invasive Species, Climate Change, Dam Failure, Drought & Water shortage, Earthquake, Floods: 1%/0.5%/0.2% annual chance, Floods: Localized Stormwater, Levee Failure, Pandemic, Severe Weather: Extreme Cold and Freeze, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms, Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Local jurisdictional reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (Assembly Bill (AB) 2140).

Project Description: Specifically, this section requires that each applicable jurisdiction adopt a local hazard mitigation plan (LHMP) in accordance with the federal Disaster Mitigation Act of 2000 as part of the Safety Element of its General Plan. Adoption of the LHMP into the Safety Element of the General Plan may be by reference or incorporation.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: Safety Element of General Plan

Responsible Agency/ Department/Partners: Placer County Community Resource Department Agency (CDRA) - Planning

Cost Estimate: Jurisdictional board/staff time

Benefits (avoided Losses): Incorporation of an adopted LHMP into the Safety Element of the General Plan will help jurisdictions maximize the cost recovery potential following a disaster.

Potential Funding: Local budgets

Timeline: As soon as possible after receipt of BOS adoption resolution and receipt of FEMA final approval letter of 2021 LHMP (Fall/Winter 2021)

Project Priority: High

Action 2. Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness

Hazards Addressed: All (priority and non-priority) hazards

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Placer County, its incorporated jurisdictions, and special districts are participating jurisdictions to the Placer County Local Hazard Mitigation Plan Update. Each jurisdiction plays a key role in public outreach/education efforts to communicate the potential risk and vulnerability of their community to the effects of natural hazards. A comprehensive multi-hazard public education program will better inform the community of natural hazards of concern and actions the public can take to be better prepared for the next natural disaster event.

Project Description: A comprehensive multi-hazard outreach program will ascertain both broad and targeted educational needs throughout the community. The County, cities, and special districts will work with other agencies as appropriate to develop timely and consistent annual outreach messages in order to communicate the risk and vulnerability of natural hazards of concern to the community. This includes measures the public can take to be better prepared and to reduce the damages and other impacts from a hazard event. The public outreach effort will leverage and build upon existing mechanisms, will include elements to meet the objectives of Goal 3 of this LHMP Update, and will consider:

- Using a variety of information outlets, including websites, local radio stations, news media, schools, and local, public sponsored events;
- Creating and distributing (where applicable) brochures, leaflets, water bill inserts, websites, and public service announcements;
- Displaying public outreach information in County and City office buildings, libraries, and other public places and events;
- Continue sustaining Ready Placer program to outreach & educate the public on natural hazards and human caused hazards, including potential impacts of extreme weather from climate changes.
- Develop public-private partnerships and incentives to support public education activities.

Other Alternatives: Continue public information activities currently in place.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Existing County, City, and other special district outreach programs will be reviewed for effectiveness and leveraged and expanded upon to reach the broader region.

Responsible Agency/ Department/Partners: Placer County, Cities, and all other participating jurisdictions

Cost Estimate: Annual costs to be determined, and will depend on the scope and frequency of activities and events as well as volunteer participation

Benefits (Losses Avoided): Increase residents' knowledge of potential hazards and activities required to mitigate hazards and be better prepared. Protect lives and reduce damages, relatively low cost to implement.

Potential Funding: Local budgets, grant funds

Timeline: Ongoing/Annual public awareness campaign

Project Priority (H, M, L): H

Action 3. Critical Facility Infrastructure Improvements

Hazards Addressed: Multi-Hazard

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Placer County Environmental Utilities manages critical facilities and infrastructure for water systems, sewer, and solid waste. Several hazards can threaten the operation of these systems, such as wildfires, drought, pandemic, severe weather, and flood. These hazards can stop operation of facilities and infrastructure if power is lost, systems are damaged, if operations are required to close down, communication is lost, if there are water shortages and/or contamination, or other interruptions or damage caused by hazards. Critical facilities include, sewer systems, wastewater treatment, wells, potable water systems, water systems for fire suppression, solid waste collection, solid waste sorting facilities, landfill operations, and other critical infrastructure and utilities.

Project Description: The project is for critical facility and infrastructure improvements against multiple hazards to prevent interruption of necessary services. Examples may include installing backup generators or other power supplies, hardening systems, adding or upgrading components for resiliency, upgrading equipment to continue operation and/or improve efficiency, ensuring adequate equipment and supplies, increasing capacity, improving landfill gas collection systems, installing/upgrading monitoring systems, upgrading or increasing communication systems, providing education and outreach, and other projects to protect critical facilities, infrastructure, and operations.

Other Alternatives: None identified.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Placer County Environmental Utilities have ongoing plans and projects to protect and improve critical infrastructure and facilities. An increase in funding would allow more opportunities for planning and implementing projects.

Responsible Agency/ Department/Partners: Placer County, other jurisdictions within Placer County, waste haulers and operators, Fire agencies

Cost Estimate: Independent project costs will vary from approximately \$10,000 to \$2,000,000.

Benefits (Losses Avoided): Continuous and efficient operation of critical facilities, infrastructure, and services.

Potential Funding: FEMA mitigation funding, Clean Water State Revolving Fund, CalRecycle grants, Sustainable Groundwater Management Grants, USDA Rural Utility Services

Timeline: Currently underway and ongoing indefinitely.

Project Priority (H, M, L): High

Action 4. *Protect Sewer Infrastructure and Utilities*

Hazards Addressed: Flood, Severe Weather, Drought

Goals Addressed: 1, 2, 3, 4, 5, 7

Issue/Background: Flooding and severe weather storm events pose a risk to sewer systems and infrastructure. Inflow and infiltration (I & I) get into sewer systems and can cause overflow. To reduce the risk of overflow, facilities require hardening, flood proofing and/or raising or relocating facilities and infrastructure out of flood prone areas. To prevent overflow during these events, emergency pumping is also required. During hazardous events, power is also lost at these sites, which poses a significant threat to overflow if there is not a backup power source. Flood and severe weather require a high demand of labor and costs to prevent damage and overflow of systems.

Stormwater and flooding are also a threat to utilities that require creek crossings, due to damage and erosion. This causes ongoing inspections and repairs/maintenance at these sites. Hardening utilities and infrastructure would create a more reliable system with less risks of overflow, damage, and labor/costs caused by emergency events.

Drought leads to accelerated root intrusion into the sewer system, which leads to blockages. Placer County reports from 2009-2018 show that root intrusion has been the leading cause of spills for the sewer system.

Project Description: The project is to protect utilities and infrastructure from flooding, severe weather, and drought. Examples may include, flood proofing facilities/utilities, relocating or raising infrastructure/utilities above the base flood elevation and out of flood prone areas, installing SCADA systems, hardening facilities/utilities, repairing or replacing facilities/utilities, ongoing inspections, securing/managing contracts for emergency pumping, installing additional holding tanks at lift stations, upsizing and repairing sewer lines/force mains, bringing infrastructure and facilities to current standards, constructing or upgrading sewer treatment facilities, eliminating and/or ensuring structural integrity of sewer creek crossings, clearing or reducing root intrusion, updating Sewer Systems Management Plans and Sanitary Sewer Overflow Response Procedures, installing generators and other backup power sources, ensuring adequate equipment and fuel supply, providing education/outreach, and other projects to protect utilities.

Other Alternatives: None identified.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Placer County Environmental Utilities currently has a Capital Project List, which has identified areas or facilities that are in need of repair or replacement. Projects are ongoing, but more funding is required to harden and protect facilities and infrastructure from these hazards.

Responsible Agency/ Department/Partners: Placer County Environmental Utilities

Cost Estimate: Independent project costs will vary from approximately \$10,000 to \$2,000,000.

Benefits (Losses Avoided): Reducing or eliminating overflows and damage to critical infrastructure and utilities, and to keep the system operating efficiently.

Potential Funding: FEMA mitigation funding, Clean Water State Revolving Fund, USDA Rural Utility Services

Timeline: Underway and ongoing indefinitely.

Project Priority (H, M, L): High

Action 5. *Trail System Way Finding and Directional Signage*

Hazards Addressed: Multi Hazard (Search and Rescue)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Placer County has one of the nation's most extensive recreational trail networks with over 500 miles of public trails located on County, State, and Federally owned property. A need has arisen to improve way finding and directional signage. Many trails are currently non-descript of landmarks for miles on end, and this creates delay in emergency response along trails. Signage will include mile markers along remote trails to aid reporting parties in describing the location of incidents along trails to first responders. Directional and interpretive signage will also alert trail users of hazards and preparedness planning.

Other Alternatives: Close trails to the public if delay in emergency response increases hazards to unacceptable levels.

Existing Planning Mechanism(s) through which Action Will Be Implemented: A pilot program of mile marking signage has been implemented in the Dry Creek West Placer Area of Placer County. A Park and Trail Master Plan will be undertaken by Placer County beginning in 2015. The Master Plan will complete in 2021 including trail safety signage standards.

Responsible Office/Partners: Placer County Department of Parks and Open Space, State Parks, U.S. Forest Service/Bureau of Land Management/Bureau of Reclamation, local Land Trusts.

Project Priority: High

Cost Estimate: \$125,000

Benefits (Losses Avoided): Decrease emergency response time in public open space areas. Educate trail users in hazard avoidance and readiness planning.

Potential Funding: Grants, Development Fees, other

Timeline: 2021 through 2025

Agricultural Hazard Actions

Action 6.

Hazards Addressed: Ag Hazards

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background:

Project Description:

Other Alternatives:

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Agency/ Department/Partners:

Cost Estimate:

Benefits (Losses Avoided):

Potential Funding:

Timeline:

Project Priority (H, M, L):

Avalanche Actions

Action 7.

Hazards Addressed: Avalanche

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background:

Project Description:

Other Alternatives:

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Agency/ Department/Partners:

Cost Estimate:

Benefits (Losses Avoided):

Potential Funding:

Timeline:

Project Priority (H, M, L):

Climate Change Actions

Action 8. Green Waste

Hazards Addressed: Climate Change and Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Programs and resources need to be available to allow green waste to be removed from properties to reduce fuels for wildfire risks and severity. If green waste is disposed of instead of being recycled, the decomposition of green waste in the landfill will create methane and contribute to climate change. Facilities are receiving more green waste in recent years and do not have enough cost-effective opportunities for green waste to be recycled. In return, there may be a higher cost to drop off green waste at facilities, which will discourage property owners from removing green waste and reducing fuels.

Additionally, facilities need to improve capabilities to receive green waste. County facilities have had an increase in green waste drop off that has created longer lines, wait times, and more traffic. Facilities need to improve efficiency in receiving green waste to encourage property owners to reduce fuels.

Project Description: The project is to enhance programs and improve capabilities/efficiency to receive and recycle green waste. Examples of projects are to improve efficiency at facilities, increase or expand drop-off facilities and locations, support biomass projects, increase recycling/composting opportunities, provide education and outreach, support special programs or events, and other projects to reduce green waste and to efficiently recycle or reuse green waste material.

Other Alternatives: None identified.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Placer County Environmental Utilities is currently looking at projects to improve efficiency and increase green waste opportunities. It will require multiple projects and programs to improve overall efficiency and opportunities to recycle green waste and reduce fuels. Additional planning mechanisms will be required.

Responsible Agency/ Department/Partners: Placer County, Fire agencies, waste haulers, waste facilities, recycling facilities

Cost Estimate: Independent project costs will vary from approximately \$10,000 to \$2,000,000.

Benefits (Losses Avoided): Reduction in fuel for wildfires and reduction/avoidance of organic waste in landfills to reduce climate change

Potential Funding: FEMA mitigation funding, USDA Rural Utility Services, CalRecycle grants

Timeline: Projects are currently in the planning phase and will likely be ongoing to continuously improve green waste programs.

Project Priority (H, M, L): High

Action 9. *Reduce Organic Waste Disposal*

Hazards Addressed: Climate Change

Goals Addressed: 1, 2, 3, 4, 5, 7

Issue/Background: The decomposition of organic waste creates methane, which contributes to climate change. SB 1383 emission reduction targets include a 75% reduction in statewide disposal of organic waste by 2025. According to CalRecycle, organic material accounts for more than a third of the material in California's waste stream. Reducing organic waste disposal is part of the AB 32 (California Global Warming Solutions Act of 2006) Scoping Plan, is fundamental to ARB's Short Lived Climate Pollutant strategy, and is one of California's strategies for reaching the statewide 75 percent recycling goal (CalRecycle).

To reduce climate change impacts, organic waste can be diverted and turned into products, such as compost, fertilizers, and biofuels. Placer County is currently diverting green waste that gets sorted from disposable materials at the materials recovery facilities. Food waste is collected from a portion of businesses in the County and is turned into compost. There is still a significant portion of food waste from residential households, multifamily dwellings, and other businesses that have opportunities for diversion, but these opportunities require funding and programs to allow more organic waste to be diverted.

Project Description: The project is to increase and implement organics waste (food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) reduction/recycling programs to reduce greenhouse gas emissions from the decomposition of organic waste in landfills. Examples of projects are to improve efficiency in the collection and sorting of organics waste, expanding or adding new organics waste recycling facilities, increasing access to recycling facilities, developing new programs to support organics waste diversion, improve and increase opportunities for edible food recovery, providing education and outreach, and other similar projects that will assist in reducing organic waste disposal.

Other Alternatives: None identified.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Material recovery facilities are investigating options for organics waste diversion and/or expansion, but more planning mechanisms are required to implement this project. The County and other jurisdictions are currently planning for programs and projects. No other formal implementation plans are in place at this time.

Responsible Agency/ Department/Partners: This project will require planning and collaboration from many entities, such as Placer County, other jurisdictions within Placer County, businesses, facilities, waste haulers, food recovery organizations, residents, etc.

Cost Estimate: Independent project costs will vary from approximately \$10,000 to \$2,000,000.

Benefits (Losses Avoided): Reduce greenhouse gas emissions and climate change impacts.

Potential Funding: FEMA mitigation funding, CalRecycle grant programs, USDA Rural Utility Services

Timeline: Reducing organic waste disposal will be an ongoing effort. It is likely that the implementation of several new projects will be required during the next four years.

Project Priority (H, M, L): High

Dam Failure, Flood: 1%, 0.5%, 0.2% annual chance, Flood: Localized Flood, and Severe Weather: Heavy Rains and Storms Actions

Action 10. Elevate Repetitive Loss Structures in 100-year Floodplain

Hazards Addressed: Flood

Goals Addressed: 1, 2, 3, 4, 5, 7

Issue/Background: Placer County is a participant in the National Flood Insurance Program Community Rating System. As a participant in the CRS program, Placer County reviews the Repetitive Loss (RL) properties within its jurisdiction and annually notifies surrounding property owners of the RL property. In order to mitigate for RL properties, the structures can be elevated such that the finish floor is elevated above the 100-year flood elevation. RL properties include but are not limited to the following:

- 2 RL properties in Granite Bay
- 1 RL property in Loomis
- 1 RL property in Newcastle
- 1 RL property in Lincoln
- 1 RL property in Soda Springs
- 1 RL property in Olympic Valley
- 1 RL property in Tahoe City
- 1 RL property in Homewood

Other Alternatives: Other than elevating the structure, alternatives include; acquisitions/relocations, dry flood proofing of non-residential structures, minor localized flood control projects, and demolition of NFIP-insured structures on acquired or restricted real property.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Elevate RL structures using grants when available

Responsible Office/Partners: Placer County Department of Public Works and Facilities

Cost Estimate: Elevation is estimated at \$100,000 to \$150,000 per structure.

Benefits (Losses Avoided): Reduce flood losses and create a safer community

Potential Funding: Potential Grant Programs

Timeline: 2-10 years

Project Priority: Medium

Action 11. Elevate Remaining 95 Homes in the Dry Creek Watershed

Hazards Addressed: Flood

Issue/Background: Homes in the Dry Creek Watershed have a history of flooding. These 95 homes could benefit from being elevated above flood levels.

Goals Addressed: 1, 2, 3, 4, 5, 7

Other Alternatives: Other than elevating the structure, alternatives include; acquisitions/relocations, dry flood proofing of non-residential structures, minor localized flood control projects, and demolition of NFIP-insured structures on acquired or restricted real property.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Available funding and homeowner cost sharing where possible. Funding thru Federal or State grant sources if available.

Responsible Office/Partners: Placer County Department of Public Works and Facilities

Cost Estimate: Elevation is estimated at \$100,000 to \$150,000 per structure.

Benefits (Losses Avoided): Reduce flood losses and create a safer community

Potential Funding: Potential Grant Programs

Timeline: 2-10 years

Project Priority: Medium

Action 12. *Community Rating System (CRS) Maintain and Enhance*

Hazards Addressed: Flood

Goals Addressed: 1, 2, 3, 4, 5, 7

Issue/Background: Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet the three goals of the CRS:

- Reduce flood losses;
- Facilitate accurate insurance rating; and
- Promote the awareness of flood insurance

Other Alternatives: Stop participation in the CRS and leave home owners uninformed about flood risks.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Community Outreach through implementation of the CRS program. Currently a Class 5 community. Enhancement of program would require establishment of freeboard.

Responsible Office/Partners: Placer County Department of Public Works and Facilities

Cost Estimate: \$60,000 per year to maintain rating

Benefits (Losses Avoided): Reduce flood losses and create a safer community

Potential Funding: County General Funds

Timeline: On Going

Project Priority: Medium

Action 13. Bridge and Culvert replacement and drainage improvements

Hazards Addressed: Flood

Goals Addressed: 1, 2, 3, 4, 5, 7

Issue/Background: Continue to review and identify bridge, culverts and drainage improvements

Other Alternatives: Continue to respond to events in a piecemeal fashion.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Funding thru Federal or State grants and road funds.

Responsible Office/Partners: Placer County Department of Public Works and Facilities

Cost Estimate: Cost dependent on project. \$50,000 - \$10,000,000

Benefits (Losses Avoided): Reduce flood losses and maintain safe public roads

Potential Funding: Grant Programs

Timeline: 2-10 years

Project Priority: Medium

Drought & Water Shortage, Severe Weather: Extreme Heat, Tree Mortality, and Wildfire Actions

Action 14. *Improve and Protect Water Systems*

Hazards Addressed: Wildfire and Drought

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The Placer County Environmental Engineering and Utilities Division provides support related to the design, operation, and maintenance of the County's public water systems in the community of Sheridan and in Truckee off Cabin Creek Road. The system in Sheridan serves the community, and the Cabin Creek system serves the Eastern Regional Landfill and the Tahoe Area Regional Transit County facilities. In addition, the County provides and maintains numerous water systems for fire suppression.

Wildfire and drought potentially threaten the system's ability to adequately provide potable water and to meet the level of demand by the community and for fire suppression. Fires can damage the system, potentially contaminate water sources, and prevent water availability. Drought can reduce water availability, which may require conservation, and also impact supply needed by the community or during a wildfire event.

There is an important need to improve water systems in the County, but funding sources have not been available to make improvements to reduce threats to the system from these hazards.

Project Description: The project is to improve and protect water systems for suppression and resiliency against wildfire and drought. Examples include strengthening water systems, improving equipment, preventing contamination, improving water quality, increasing water volume and/or flow, improving fire suppression abilities, increasing reliability, installing backup power sources or generators, installing new systems, making water systems more accessible, ensuring adequate equipment and supplies, water conservation projects, projects to protect/improve groundwater and surface water, constructing additional water storage facilities, providing education and outreach, and other projects to protect or improve water systems and availability.

Other Alternatives: None identified.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Placer County Environmental Utilities maintains the County public water systems and systems for fire suppression. This includes ongoing monitoring and maintenance of these systems. Additional funding and resources are needed to plan and implement projects to improve and protect the water systems.

Responsible Agency/ Department/Partners: Placer County Environmental Utilities, Fire agencies

Cost Estimate: Independent project costs will vary from approximately \$10,000 to \$2,000,000.

Benefits (Losses Avoided): Ensuring adequate and safe water supply for community systems and fire suppression systems.

Potential Funding: FEMA mitigation funding, USDA Rural Utility Services, Sustainable Groundwater Management Grants

Timeline: Maintenance and monitoring are ongoing. Additional projects may be implemented at the time that funding is available.

Project Priority (H, M, L): High

Action 15. Groundwater Sustainability Planning

Hazards Addressed: Drought and Water Shortage

Goals Addressed: 1, 2, 3, 4, 5, 7

Issue/Background: Placer County depends on groundwater for drinking water resources and agriculture. The Sustainable Groundwater Management Act (SGMA) was enacted in 2014 to prevent overdraft in groundwater basins or to bring overdrafted groundwater basins into sustainability (balanced levels of pumping and recharge). SGMA requires local agencies to form sustainability agencies and adopt sustainability plans for high- and medium-priority groundwater basins. The long-term planning required by SGMA and described in GSPs will provide a buffer against drought and climate change and contribute to reliable water supplies regardless of weather patterns in the State.

The West Placer Groundwater Sustainability Agency (WPSGA) was formed by a Memorandum of Agreement in 2017 to manage groundwater in the western Placer County portion of the North American Subbasin (NASb). The WPGSA member agencies include Placer County, the cities of Roseville and Lincoln, Placer County Water Agency, and Nevada Irrigation District. California American Water Company is a participating agency. The WPGSA is working cooperatively with other Groundwater Sustainability Agencies to develop a single Groundwater Sustainability Plan (GSP) for the Subbasin which covers portions of west Placer County, Sutter County, and Sacramento County.

Although the NASb is not in overdraft conditions and the subbasin is generally healthy, it has been designated by the DWR as a High Priority subbasin primarily due to the extent of groundwater use and potential for future population growth.

Project Description: Support the West Placer Groundwater Sustainability Agency's efforts to develop and implement a Groundwater Sustainability Plan in accordance with State the SGMA. The GSP must include ongoing monitoring and management of groundwater as well as identify projects and management actions that could be implemented should the basin become at risk. As one example, the WPGSA is investigating lands in western Placer County that can potentially be used for groundwater recharge during times of excess surface water flow. Ongoing GSP implementation will include semiannual groundwater monitoring, annual reporting, five-year GSP updates, and implementation of projects and management actions as needed.

Other Alternatives: If local agencies do not take action to develop and implement GSPs, the State can intervene and take control over the management of local groundwater resources.

Existing Planning Mechanism(s) through which Action Will Be Implemented: The GSP is the planning mechanism. The development of the GSP is currently underway and must be submitted to the California Department of Water Resources (DWR) by January 31, 2022. Once the GSP is submitted, the GSAs will immediately transition into implementation, which will include groundwater monitoring, annual reporting, five-year GSP updates, and implementation of projects and management actions as needed. Specific projects will need to be consistent with existing land use policies, permitted by local and state agencies, and will be subject to CEQA review.

Responsible Agency/ Department/Partners: The WPGSA agencies (Placer County, City of Roseville, City of Lincoln, Placer County Water Agency, Nevada Irrigation District, California American Water).

Cost Estimate: The estimated cost to create the GSP is \$2 million, but costs of implementing the GSP will vary and are to be determined.

Benefits (Losses Avoided): Implementation of the GSP will include ongoing monitoring of the groundwater basin, which means early identification of any “undesirable results” as defined in SGMA – such as lowering of groundwater levels, degradation of water quality, surface water depletion, and other conditions. Having pre-defined Projects and Management Actions (i.e. mitigation measures), and defined criteria for which they are triggered, will enable the WPGSA agencies to act quickly to protect groundwater levels.

Potential Funding: The five GSAs will share the cost of developing the GSP and ongoing implementation, which will be allocated by acreage. The Department of Water Resources has allocated \$1 million in grant funding for development of the GSP, which will cover about half the estimated cost. The grant requires a 50 percent cost-share by each GSA. The West Placer GSA share of this is approximately \$241,000. Costs for ongoing implementation are currently being calculated. Costs for implementing projects and management action will vary and are currently being reviewed. Placer County has committed to funding and implementing a groundwater recharge project in west Placer County. The Placer Vineyards Specific Plan located in western Placer County includes a Development Agreement provision with the intent to maintain groundwater levels to support affordable local groundwater supply for agriculture. The provision established a fee of \$1,000 per residential unit to support implementation of supportive infrastructure, but does not include funding for planning purposes, such as permitting or CEQA.

Timeline: Completion of the GSP is due January 31, 2022. Implementation of the GSP will occur indefinitely.

Project Priority (H, M, L): High

Action 16. *Fuel Breaks - Wildland Urban Interface (WUI)*

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The purpose of a Shaded Fuel Break within the WUI is to minimize destruction to communities from wildfire and to protect and enhance natural resources, watershed and habitat of western

Placer County. When complete, these projects will help protect the community's identified as "Communities at Risk from Wildfire" and identified as communities with the WUI, listed in the CWPP.

This practice applies to all communities within the WUI where protection from wildfire is needed. These Shaded Fuel breaks are planned thinning of dense vegetation in an area approximately 300 feet wide where fire does not easily move from the ground into the overhead tree canopy and to allow fire resources to utilize such a location to increase probability of success during fire suppression activities. Fuel break width will be dependent upon the fuels and topography in any given area.

Project Description: For our purposes, a strategic fuel break is typically placed to protect the communities identified in the Western Slope CWPP WUI, for that specific Fire Safe Council.

The Placer County Fire Safe Alliance and Fire Safe Councils have worked with County, State, and Federal agencies to identify areas within their jurisdictions to develop shaded fuel breaks to protect specific communities and watersheds within the WUI.

Other Alternatives: Rely on the individual property owner or land managers within the WUI to develop fuel breaks to protect resources and assets from fire that may spread from the wildland into urban areas.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Work with the current property owner or land manager to implement shaded fuel breaks identified in the Western Slope CWPP WUI area. Apply for local, State, or Federal funding to implement these plans.

Responsible Agency/ Department/Partners: Placer County, Stakeholders, & Landowners

Cost Estimate: The costs for the individual projects are identified in the Western Slope CWPP Project Planning Worksheets.

Benefits (Losses Avoided): Reduced risk of loss of life and property from catastrophic wildfire in developed communities, towns, and cities within the County.

Potential Funding: County, State, and Federal funding

Timeline: These projects are ongoing. Each project within the Western Slope CWPP is reviewed annually and updated as needed or removed if completed.

Project Priority (H, M, L): High

Action 17. Public Education & Awareness

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Public education through community outreach is a must in Placer County. We have 23 individual high-risk communities in the County ranging from 200 to 2500 residents each. Each Fire Safe Council, Firewise Community, and the Fire Safe Alliance attempts to meet with as many of these

residents as possible to provide information on defensible space and Firewise requirements. Most is done through attending Municipal Advisory Council, HOA, community events, and local community group meetings. Each FSC would develop an annual calendar defining the meetings and events to attend. These events range from 15-minute presentations to local and government groups as well as multiple day events (i.e. local fair and seasonal home shows).

Project Description: There are approximately 36,000 habitable structures in the Western Placer County SRA (five FSC's) boundaries. This is the fourth largest density of parcels with habitable structure in the state SRA areas. The goal is to provide each Fire Safe Council, Firewise Community, and the Fire Alliance with documentation and presentation tools that are consistent with the CAL FIRE communications goal of "To provide information and education to people of all ages, in public forums, through the media and worldwide web, and the distribution and display of printed material". Having consistent, quality education material will help us educate the public on "THEIR" roll to manage their defensible space and prevent the spread of wildfire into and out of their communities. While the majority of habitable structures are within the 23 communities at risk, education sessions will take place inside and outside of the communities. Outside meaning local fairs, seasonal home shows, Municipal Advisory Council meetings and other public events.

Other Alternatives: Each property owner or land manager needs to manage properties and infrastructure within their responsibility. While public service messages and media helps tell the public of their responsibility for defensible space and fire mitigation, specific and direct communications and training information increases the chance of reaching the public.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Work with the current property owner or land manager to implement fuels management and fire prevention projects identified in the Western Slope CWPP WUI area. Apply for local, State, or Federal funding to implement these plans.

Responsible Agency/ Department/Partners: Placer County, CALFIRE, Placer Resource Conservation District

Cost Estimate: Previous assessment shows a first-year cost of \$41,000 and an annual cost of \$17,500 per year, after year one.

Benefits (Losses Avoided): This program would provide the tools and resources to develop, purchase, and maintain needed public education material to educate Placer County residents on wildfire prevention and Firewise Community techniques.

Potential Funding: County, State, and Federal funding.

Timeline: County, State, and Federal funding.

Project Priority (H, M, L): High

Action 18. *Fuel Break - Large Strategic*

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Large Strategic Fuel Break projects will provide landscape scale community protection in our area. When complete, these projects will help protect the communities identified as “Communities at Risk from Wildfire” listed in the National Fire Plan.

Project Description: This practice applies to all communities where protection from wildfire is needed. These Strategic Fuel breaks are planned and located on the landscape as part of a conservation management system for a land unit where there is a need to control the risk of the spread of fire into our communities as well as to protect watersheds, critical infrastructure, and commerce traveling on our freeways and railways. Typically, they break up large, continuous tracts of dense natural fuels, thus limiting uncontrolled spread of fire, and are commonly associated with firebreaks (permanent or temporary strips of bare or vegetated land planned to retard fire). For our purposes, a strategic fuel break is typically placed to protect the communities identified in the Western Slope CWPP for that specific Fire Safe Council area.

The Placer County Fire Safe Alliance and Fire Safe Councils have worked with County, State, and Federal agencies to identify areas within their jurisdictions to develop large strategic fuel breaks to protect specific communities and watersheds within the County.

Other Alternatives: Rely on the individual property owner or land managers to develop strategic fuel breaks to protect resources and assets that may be outside of their ownership or responsibility.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Work with the current property owner or land manager to implement strategic fuel breaks identified in the Western Slope CWPP. Apply for local, State, or Federal funding to implement these plans.

Responsible Agency/ Department/Partners: Placer County

Cost Estimate: The cost for the individual projects is identified in the Western Slope CWPP Project Planning Worksheets

Benefits (Losses Avoided): Reduced risk of loss of life and property from catastrophic wildfire in developed communities, towns, and city’s within the County.

Potential Funding: County, State, and Federal funding

Timeline: These projects are ongoing. Each project within the Western Slope CWPP is reviewed annually and updated as needed or removed if completed.

Project Priority (H, M, L): H

Action 19. Natural Systems Protection / Education and Awareness Programs – Placer County Wildland Urban Interface (WUI) Strategic Planning

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Pre-incident assessments of the fire environment and resources at risk allow first responders to focus on responding versus reacting. Residential development in fire dependent ecosystem has created hazardous firefighting and life safety considerations for first responders. Many of these WUI communities within Placer County are bound by steep, deep inaccessible topography with poor access, steep slopes, heavy fuels, and recurring fire occurrence.

Project Description: This project will result in multiple cooperators sharing knowledge and involving the community in a fire safety planning project that will establish a strategic knowledge base for incident management and fuel management applications. Inventoried elements include structure locations, defensible space, road systems, emergency vehicle access, community closure points, water sources, at-risk assets and potential incident related locations.

These elements are all input into Geographic Information System (GIS) for development of planning area maps with a written pre-attack plan and made available to all emergency responders within Placer County.

This project includes residential education that stresses the importance of fire awareness, defensible space and evacuation procedures and preparation as part of the planning process.

The long term measurable outcomes of this project are reduction of risk of death and injuries, reduced property loss and devastation from wildfire, flood or other hazard.

Placer County Fire, CAL FIRE, Placer OES and multiple local fire districts have worked together to identify strategies and resources that will reduce risk from wildfire and improve the management of emergency incidents within the developed wildland urban interface (WUI) throughout Placer County.

Other Alternatives: Do nothing. Rely on local knowledge being available at the time of emergency.

Existing Planning Mechanism(s) through which Action Will Be Implemented: This project is a permanent component of the local CAL FIRE Fire Plan. It originated as a grass roots effort of various public safety and resource conservation cooperators. The pre-planning component will be a product that will be carried by local engines, Placer County OES, Placer County Sheriffs and input into the Emergency Command Center CAD dispatch program.

Responsible Agency/ Department/Partners: Placer County / CAL FIRE Nevada Yuba Placer Unit

Cost Estimate: Moderate costs, (<\$100,000), return on investment estimated in millions of dollars in lessened impacts from wildfire.

Benefits (Losses Avoided): Reduced risk of loss of life and property, injury to first responders throughout the wildland urban interface communities within Placer County.

Potential Funding: County, State and Federal funding.

Timeline: Long term, 5 year intensive for data development, continuous for updates.

Project Priority (H, M, L): H

Action 20. *Fuel Break - North Fork of American River*

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The North Fork American River Fuel Break project area is a critical point of intersection between the wild land of the rugged North Fork American River canyon and the densely populated WUI areas throughout the Interstate 80 corridor.

Project Description: Extension of the existing Auburn shaded fuel break north, protecting the at risk communities that line the North Fork of the American River. The North Fork is federally listed as a Wild and Scenic River and has numerous management and suppression restrictions on it in case of a fire. The North Fork American River is a primary source of domestic water from Auburn, downstream to the San Francisco Bay Area. Wildfire threat is constant and continual thereby justifying the investment in protection of these vital resources.

Extension will involve crossing the communities of Auburn, Applegate, Meadow Vista, Weimar and Colfax that line Interstate 80. A conservative estimate of structures that would derive benefit from this fuel break is +/- 5,500, worth an approximate value of \$1.925 Billion.

The area has an active large fire history, encompassing the communities impacted by the 2014 Applegate fire, 2012 Robbers fire, 2009 49 fire, 2004 Stephens fire and the Ponderosa fire in 2001.

Potential economic impact from closure of the economic corridor of Highway 80 has been estimated at 1 million dollars per closure hour of lost revenue to the economy of the state. The transcontinental railroad also weaves throughout these communities and project area. Closure of that system can equal 1 million dollars per minute of lost revenue to the economy.

Other Alternatives: Rely on the individual property owner or land manager to develop strategic fuel breaks to protect resources and assets that may be outside of their ownership or responsibility. This is the current practice which has led to a disjointed arrangement of small fuel treatments that make strategic utilization difficult.

Existing Planning Mechanism(s) through which Action Will Be Implemented: This project is a permanent component of the local CAL FIRE Fire Plan. CEQA compliance for the fuel break is currently being funded through CAL FIRE SRA Fee grant to be completed by 2017. Continued development of funding opportunities and on the ground implementation will be completed through an interagency partnership fostered by the Placer County Fire Alliance that will cross multiple fire districts.

Responsible Agency/ Department/Partners: Placer County/ CAL FIRE Nevada Yuba Placer Unit / Placer County RCD

Cost Estimate: High

Benefits (Losses Avoided): Reduced risk of loss of life and property from catastrophic wildfire in developed communities along the North Fork American River.

Potential Funding: County, State and Federal funding.

Timeline: This project is active. CEQA compliance will be completed by early 2017. On the ground work could begin immediately after CEQA completion.

Project Priority (H, M, L): H

Action 21. *Fuel Break - North Fork of American River*

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The North Fork American River Fuel Break project area is a critical point of intersection between the wild land of the rugged North Fork American River canyon and the densely populated WUI areas throughout the Interstate 80 corridor.

Extension of the existing Auburn shaded fuel break north, protecting the at risk communities that line the North Fork of the American River. The North Fork is federally listed as a Wild and Scenic River and has numerous management and suppression restrictions on it in case of a fire. The North Fork American River is a primary source of domestic water from Auburn, downstream to the San Francisco Bay Area. Wildfire threat is constant and continual thereby justifying the investment in protection of these vital resources.

Extension will involve crossing the communities of Auburn, Applegate, Meadow Vista, Weimar and Colfax that line Interstate 80. A conservative estimate of structures that would derive benefit from this fuel break is +/- 5,500, worth an approximate value of \$1.925 Billion.

The area has an active large fire history, encompassing the communities impacted by the 2014 Applegate fire, 2012 Robbers fire, 2009 49 fire, 2004 Stephens fire and the Ponderosa fire in 2001.

Potential economic impact from closure of the economic corridor of Highway 80 has been estimated at 1 million dollars per closure hour of lost revenue to the economy of the state. The transcontinental railroad also weaves throughout these communities and project area. Closure of that system can equal 1 million dollars per minute of lost revenue to the economy.

Project Description: The project includes shaded fuel break construction on 100 acres within the footprint of the North Fork American River Shaded Fuel Break priority project. Dead and down material up to 10 inches in diameter will be treated through chipping or pile and burn efforts. Chips generated will be removed to an offsite location when available. The limbs of dead and down trees greater than 12 inches in diameter will be treated and the remaining trunk will be left in place unless several trees have created a piled concentration. In this case, the remaining tree trunks will be separated by at least 10 feet from any other logs and left on site. Brush will be piled and burned on site or removed, unless islands are predesignated or agreed to by the contract administrator or his designee.

All vegetation stumps heights will be cut no higher than 6 inches above the ground. All cuts will be a flat or parallel cut to the ground. Standing dead trees with red needles still attached shall be felled and treated using the dead and down prescription as required in Item 2 and 3 above. Snags that pose a hazard to crews working in the area will be felled. Live trees 3 inches and greater in DBH will be pruned (live and dead limbs) up to a height of 10 feet. Limbs will be pruned when branches are larger than 1/2 inches' diameter (regardless of length) or greater than 2 feet in length (regardless of diameter). No pruning will be done to a height greater than 50% of total tree height. Trees < 4 feet high do not require pruning. Trees less than 12 inches DBH will be spaced leaving 17 feet – 20 feet between crowns.

Communities with enhanced protection include Colfax, Weimar, Iowa Hill, Gold Run and Dutch Flat. Landowner agreements are in development.

Other Alternatives: Rely on the individual property owner or land manager to develop strategic fuel breaks to protect resources and assets that may be outside of their ownership or responsibility. This is the current practice which has led to a disjointed arrangement of small fuel treatments that make strategic utilization difficult.

Existing Planning Mechanism(s) through which Action Will Be Implemented: This project is a permanent component of the local CAL FIRE Fire Plan. CEQA compliance for the fuel break is currently being funded through CAL FIRE SRA Fee grant to be completed by 2017. Continued development of funding opportunities and on the ground implementation will be completed through an interagency partnership fostered by the Placer County Fire Alliance that will cross multiple fire districts.

Responsible Agency/ Department/Partners: Placer County/ CAL FIRE Nevada Yuba Placer Unit / Placer County RCD

Cost Estimate: High

Benefits (Losses Avoided): Reduced risk of loss of life and property from catastrophic wildfire in developed communities along the North Fork American River.

Potential Funding: County, State and Federal funding.

Timeline: This project is active. CEQA compliance will be completed by early 2017. On the ground work could begin immediately after CEQA completion.

Project Priority (H, M, L): H

Action 22. Defensible Space Programs

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: There are many areas in the County in the High and Very High Fire Hazard Severity Zones.

Project Description: These projects address the ongoing need to manage fuels in and around privately owned homes, businesses and communities, freeways and roadways, and “Assets at Risk” in Placer County. Small communities, individual property owners and infrastructure assets can be impacted by roadside fire starts and fire starts moving into or out of private property.

Other Alternatives: Each property owner or land manager needs to manage properties and infrastructure within their responsibility. Spread from fire starts within their property can only be prevented or contained by the fire prevention and fuel management work done by the owner.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Work with the current property owner or land manager to implement fuels management and fire prevention projects identified in the Western Slope CWPP WUI area. Apply for local, State, or Federal funding to implement these plans.

Responsible Agency/ Department/Partners: Placer County

Cost Estimate: The cost for the individual projects is identified in the Western Slope CWPP Project Planning Worksheets.

Benefits (Losses Avoided): Reduced risk of loss of life and property from catastrophic wildfire in developed communities, towns, and city’s within the County. Loss of assets at risk can have significant impact on those outside of the County. Communication links and interstate transportation can be significantly impact by wildfire along the Interstate 80 corridor.

Potential Funding: County, State, and Federal funding

Timeline: These projects are ongoing. Each project within the Western Slope CWPP is reviewed annually and updated as needed or removed if completed.

Project Priority (H, M, L): H

Action 23. *Fuel Break - North Fork of American River*

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The North Fork American River Fuel Break project area is a critical point of intersection between the wildland of the rugged North Fork American River canyon and the densely populated WUI areas along the Interstate 80 corridor. The project protects the at-risk communities that line the North Fork of the American River.

The far southern extent of the fuel break includes the Auburn shaded fuel break then travels north and east parallel to Interstate 80. The furthest northern extent of the fuel break includes Casa Loma, just east of Moody Ridge. The main phases of the NFARFB lie near Colfax (Phase 1), Weimar (Phase 2), Clipper Gap and Auburn (Phase 3). The balance of the fuel break would occur in subsequent phases. All wildland fires near the project pose an immediate risk to interstate commerce. Potential economic impact from closure of

Highway 80 has been estimated at 1 million dollars per closure hour of lost revenue to the economy of the state. Closure of the Union Pacific Rail Line for mere hours would have a ripple effect that impacts merchant shipping in western ports. Closure of that system can equal 1 million dollars per minute of lost revenue to the economy. The Kinder Morgan pipeline delivers gas and oil As many as 500,000 customers receive power from infrastructure along this corridor and the watershed is a primary source of domestic water from Alta to Auburn, Sacramento and downstream to the San Francisco Bay Area.

The area has an active large fire history with regular events threatening communities including the Applegate fire (2014), Robbers fire (2012), 49 fire (2009), Stephens fire (2004) and the Ponderosa fire (2001). Wildfire threat is constant and continual thereby justifying the investment in protection of these vital resources.

Portions of the North Fork American is federally listed as a Wild and Scenic River and has numerous management and suppression restrictions in the event of a fire. Full buildout of the NFARFB involves work in the communities of Auburn, Clipper Gap, Applegate, Weimar, Colfax, Cape Horn, Gold Run, Moody Ridge, Alta, and Casa Loma. A conservative estimate of number of structures and infrastructure values that would derive benefit from this fuel break is +/- 10,500 structures worth an approximate value of \$4.25 Billion.

Project Description: The project includes shaded fuel break construction using hand treatment, mechanical treatment, prescribed fire, and herbicide treatment. Dead and down material up to 10 inches in diameter will be treated through chipping or pile and burn efforts. Chips generated will be removed to an offsite location when available. The limbs of dead and down trees greater than 12 inches in diameter will be treated and the remaining trunk will be left in place. Brush will be piled and burned on site or removed, unless islands are predesignated or agreed to by the contract administrator or his designee.

All vegetation stumps heights will be cut no higher than 6 inches above the ground. All cuts will be a flat or parallel cut to the ground. Standing dead trees less than 14 inches DBH with red needles still attached shall be felled and treated using the dead and down prescription as required above. Snags of any size that pose a hazard to crews working in the area will be felled, limbs treated and logs left on site. Live trees 3 inches and greater in DBH will be pruned (live and dead limbs) up to a height of 10 feet. Limbs will be pruned when branches are larger than 1/2 inches' diameter (regardless of length) or greater than 2 feet in length (regardless of diameter). No pruning will be done to a height greater than 50% of total tree height. Trees < 4 feet high do not require pruning. Trees less than 12 inches DBH will be spaced leaving 17 feet – 20 feet between crowns.

Other Alternatives: Rely on the individual property owner or land manager to develop strategic fuel breaks to protect resources and assets that may be outside of their ownership or responsibility. This is the current practice which has led to a disjointed arrangement of small fuel treatments that make strategic utilization difficult.

Existing Planning Mechanism(s) through which Action Will Be Implemented: This project is a permanent component of the local CAL FIRE Unit Fire Plan. CEQA compliance for the fuel break is currently being funded through various state grants and other state funding. Full CEQA completion through MND is planned for completion Fall 2021. Continued development of funding opportunities and on the

ground implementation will be completed through an interagency partnership fostered by the Placer County Fire Alliance that will cross multiple fire districts.

Responsible Agency/ Department/Partners: Placer County/ CAL FIRE Nevada Yuba Placer Unit / Placer County RCD

Cost Estimate: High

Benefits (Losses Avoided): Reduced risk of loss of life and property from catastrophic wildfire in developed communities that border the North Fork American River.

Potential Funding: County, State and Federal funding.

Timeline: This project is active. CEQA compliance for Phase I was met by Governor's Executive Order. Phase II begins Fall 2021 and will involve finalization of Mitigated Negative Declaration for the entire fuel break extending from Auburn to Colfax. Phase III is tentatively scoped for 2023-2024. Other subsequent phases too occur as funding and environmental compliance will allow.

Project Priority (H, M, L): H

Earthquake Actions

Action 24.

Hazards Addressed: Earthquake

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background:

Project Description:

Other Alternatives:

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Agency/ Department/Partners:

Cost Estimate:

Benefits (Losses Avoided):

Potential Funding:

Timeline:

Project Priority (H, M, L):

Pandemic Actions

Action 25.

Hazards Addressed: Pandemic

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background:

Project Description:

Other Alternatives:

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Agency/ Department/Partners:

Cost Estimate:

Benefits (Losses Avoided):

Potential Funding:

Timeline:

Project Priority (H, M, L):

Seiche Actions

Action 26.

Hazards Addressed: Seiche

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background:

Project Description:

Other Alternatives:

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Agency/ Department/Partners:

Cost Estimate:

Benefits (Losses Avoided):

Potential Funding:

Timeline:

Project Priority (H, M, L):

Severe Weather: Freeze and Snow and High Winds and Tornadoes Actions

Action 27.

Hazards Addressed: Severe Weather

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background:

Project Description:

Other Alternatives:

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Agency/ Department/Partners:

Cost Estimate:

Benefits (Losses Avoided):

Potential Funding:

Timeline:

Project Priority (H, M, L):